

## ABSTRACT

A method of depositing a zirconia-based ceramic coating (24) using a low velocity oxy-fuel (LVOF) process. Particles of zirconia (14) are mixed with second  
5 constituent particles (16) of a material having a melting temperature sufficiently low to be successfully deposited by an LVOF process. The second constituent particles may have a coefficient of thermal expansion within 30% of that of the zirconia particles, and/or they may have a thermal conductivity less than or no more than 20% higher than that of the zirconia particles. The second constituent particles may include calcium  
10 titanate, strontium titanate or sodium-zirconium-phosphate-silicate (NZPS). The capability to deposit the zirconia-containing particle mix with an LVOF process facilitates the in-situ repair of a component having a damaged zirconia-based thermal barrier coating.